Applicant(s):   Eitan Bachmat, Tao Kai Lam and Ruben Michel
Serial No.: 09/541,159
Filed: March 31, 2000   E30-043 (99-202)

2002, please amend the above-identified patent application as

follows:

In the Specification

Please cancel the paragraph at page 1, lines 2 through 7 and

replace said paragraph with the following paragraph:

--This is a continuation-in-part of copending application

for United States Letters Patent No. 6,088,766 granted July 11,

2000 (Serial No. 09/002,428 filed January 2, 1998) that is a

continuation-in-part of copending application for United States

Letters Patent No. 6,061,761 granted May 2, 2000 (Serial No.

08/944,606 filed October 6, 1997) and that is assigned to the

same assignee as this invention. --

Please cancel the paragraph at page 6, lines 1 through 16 and

replace said paragraph with the following paragraph:

-- Recently more rigorous analyses have been implemented

to provide dynamic reallocation based upon actual usage.

United States Patent No. 6,189,071 granted February 13, 2001

(Application Serial No. 09/143,683 filed, August 28, 1998)

discloses one such analysis that includes the step of providing

an approximation of disk seek times. Generally these

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approaches determine seek distances and convert the seek

distances into time. In more specific terms, this approach

uses a statistical analysis by which actual disk accesses are

weighted and combined to produce an estimated seek activity.

Then this estimate is converted to a seek time by combination

with a value, $t_{i,j}$, that is an approximation of the seek time

between two logical volumes i and j. However, in some

applications it may be desirable to obtain more accurate seek

times to use in selecting exchangeable logical volumes that, in

turn, can optimize the performance of a disk array storage

device. --

Please cancel the paragraph at page 22, line 13 through page

23, line 3 and replace said paragraph with the following

paragraph:

   -- Step 226 utilizes the resulting number of seeks

obtained from Equation (2) and the characteristic seek time

from equation (9) to generate the total time for seek

operations with the logical volume pair. That is, for a

specified logical volume pair i,j, the seek time, *seek

time(i,j)* is:

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$$\text{Seek time } (i,j)\frac{A_i A_j}{A} = t_{i,j} \tag{11}$$

Thus steps 220 and 226 provide a total seek time over the analysis interval for a logical volume pair (i,j).

Please cancel the paragraph at page 24, line 21 through page 25, line 2 and replace said paragraph with the following paragraph:

-- FIG. 7 depicts a procedure 230 for estimating the seek time for intravolume seek operations in a selected logical volume i. For purposes of explanation and understanding, assume that the LV(2) logical volume shown in FIG. 3 has been selected. --

Please cancel the paragraph at page 26, line 24 through page 27, line 8 and replace said paragraph with the following paragraph:

-- As will become evident, it is only necessary to analyze the intervolume seek times for each logical volume pair. Any number of procedures can be used to avoid duplication. In one approach depicted in FIG. 8, the logical volumes on a physical disk drive are ordered by their position on the drive. For

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